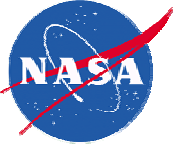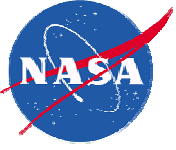# Mission Applications Branch Code 583

Branch Technical Status Report

July 21, 2004

Presentations

- MAB Project Status Overview

  Scott Green

- Precision Formation Flying Integrated Analysis Tool (PFFIAT)
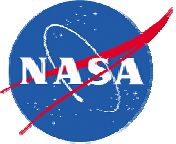
  Bob Schwenk

MAB Project Status

Scott Green

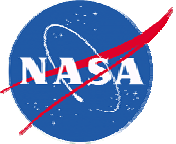| Activity	May	Jun	Jul	ISD Date	CS	△CS	SSC	Comments
ESDIS								
EOS Aura FDS	G	G	G	4/03	1.0		0.5	Promoted Aura FDS Release D.2 to operations 6/7/04. Supported Aura launch July 15.
EOS Aura MMS	G	G	G	10/01	0.6		0.5	Supported Aura Flight Operations Team (FOT) and Mission Readiness Test Team (MRTT) verification of MMS, Online, and Analysis software releases for launch support; supported Remote EOS Operations Center (REOC) at WFF hardware and software updates to match operations at GSFC
ESMO CCS	G	G	G		0.7		0.3	Continued Constellation Coordination System (CCS) Release 2 development; deliver to acceptance testing in August.
ASSET	G	G	G	9/02	0.1		0.4	Received requirements from Aura FOT for the development of an Aura ASSET Utility; requirements analysis initiated.
Swift								
BAT FSW Testing	G	G	G		1.0			Continued testing Swift BAT flight software Build 4.2.2.
Science Center	G	G	G		0.7			Continued development on the Swift Data Center (SDC) Level 2 and 3 science data pipelines
BAT I&T	G	G	G	6/03	1.0			Successfully completed Swift S/C thermal vacuum testing in June. Supported Mission Operations Testing at Penn State University in early July.
Code 900								
ESMF	G	G	G	12/02	0.5			The ESTO/CT Project is dissatisfied with the current capabilities as delivered by the ESMF development team. The development team has been made aware of management concerns. Interoperability milestone-I remains unapproved.

Activity	May	Jun	Jul	ISD Date	CS	∆CS	SSC	Comments
HST								
Mgmt/Operations	G	G	G		1.6		0.5	Provided technical direction to MOMS support contractor. Supported HST Project Office technical review meetings. Managing and coordinating July 31 Community Day tours in the HST Control Center.
Tools	G	G	G		1.0		0.5	Continued sustaining engineering for the SCAT software and HST FOT Request System.
STScI	G	G	G		0.8		0.3	Continued support to the NICMOS Cooling System (NCS) Operations Working Group. Supported the HST operations planning retreat with focus on the robotic servicing mission.
Code 600								
LEP	G	G	G	8/01	1.0			Delivered software to the Polar/Wind/Geotail Project to provide automated near-real time key parameter generation for the WIND Magnetic Field Investigation (MFI) and Solar Wind Experiment (SWE) instruments. Provided performanceanalysis of the LZP software for the PWG project.
SPDF	G	G	G	7/02	2.0			Delivered TIPSOD releases 1.1.3 and 1.1.4 to correct software errors and provide an improved user interface
Stellar Imager	G	G	G	5/02	0.2			Lisa Mazzuca attended the American Astronomical Society Conference, Denver Co. and the International Society for Optical Engineering Conference, Glasgow, Scotland. Both conferences were related to Stellar Imager.
Mission Services								
McMurdo GS Upgrade	G			3/04	0.0	- 0.8		Support complete as of 5/31/04.

Activity	May	Jun	Jul	ISD Date	CS	Δ CS	SSC	Comments
Flight Dynamics								
Goddard Mission Analysis Tool	Y	G	G		5.3	+ 1.0	1.0	Continued Build 3 development. Met with GNC analysts to replan remaining build capabilities.
TRMM Automation	G	G	G		0.3		0.5	Successfully sent No-Op commands from Eclipse through TFE to the Spacecraft. The GMSEC messaging API is being tested with the following systems: Criteria Action Table, Eclipse, TFE, AutoFDS MOPSS/Scenario Scheduler and Alert Notification System Router (ANSR).
Formation Flying Testbed	G	G	G		0.1			No significant updates
PFFIAT	G	G	G	7/04	1.0			Continued implementation of capabilities for next release. Completing system documentation.
GTDS UI	G	G	G		1.3			Continued enhancements of user interface
NASA SW Initiative								
CMMI/EPG	G	G	G	7/04	0.9		2.5	Presented at ISD MSR 7/14/04
SWG Metrics	G	G	G	7/04	0.2		0.5	Presented at ISD MSR 7/14/04
SWG	G	G	G	7/04	0.1		0.5	Presented at ISD MSR 7/14/04

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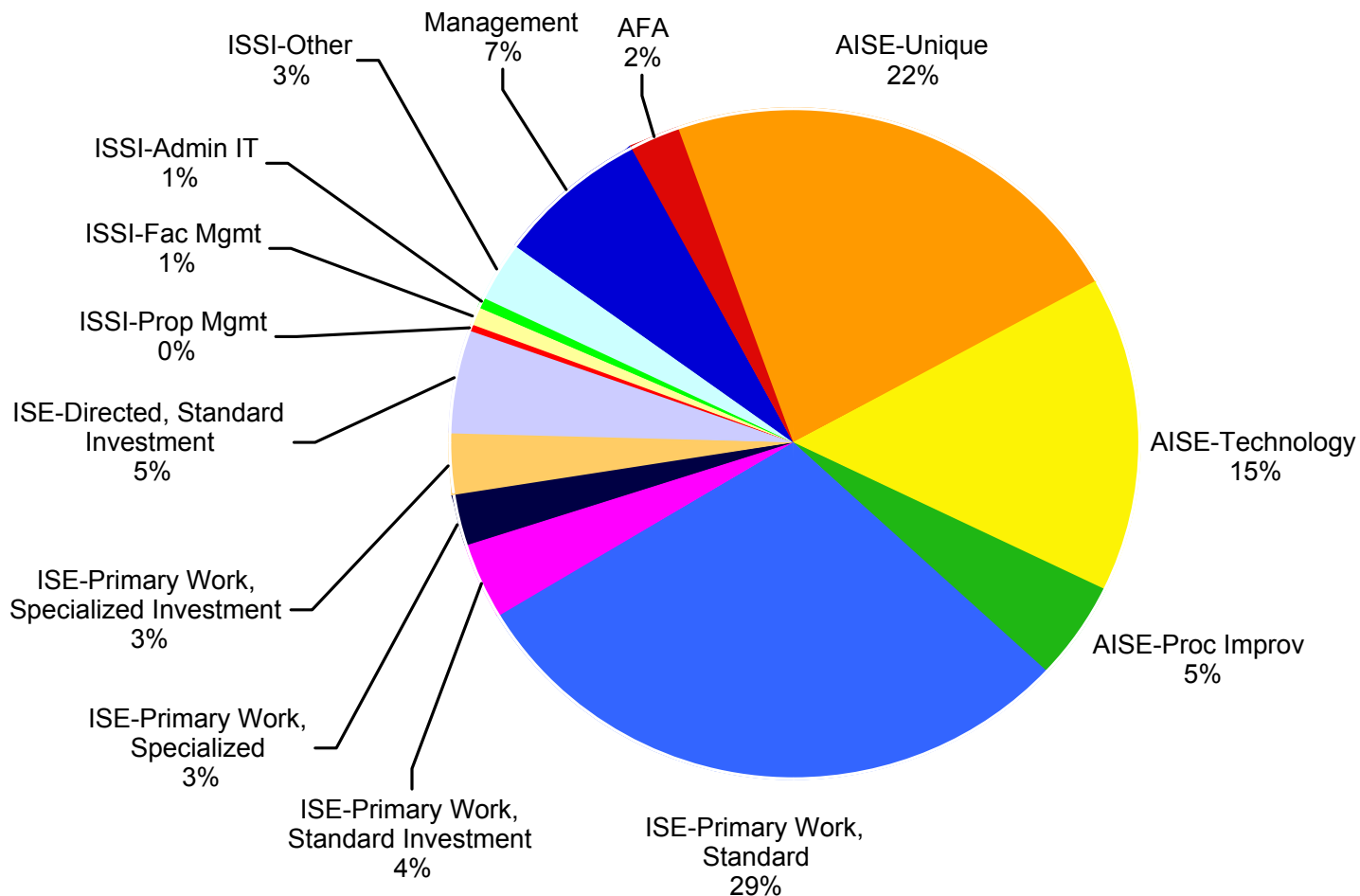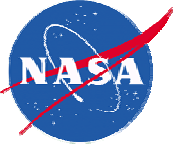| Activity	May	Jun	Jul	ISD Date	CS	△CS	SSC	Comments
GMSEC								
Planning & Scheduling	G	G	G		1.9		1.0	Delivered WIRE astroseismology science experiment planning and scheduling application to FOT on 7/6/04. Continued to work on STK/Scheduler White Paper.
Architecture/Lab	G	G	G		2.2			Continuing application of GMSEC architecture components applied to TRMM reengineering and SMEX reengineering efforts. Supported GMSEC NAR 7/13/04.
SIMSS	G	G	G		1.0		1.8	GLAST PSS Development Plan completed. Supporting GMSEC middleware testing.
Trend/Event Analysis	G	G	G		0.7		3.5	Delivered SOHO Release 3 and Wind/Polar ITPS Release 1 to operations. Continued development of W/P ITPS Release 2.
Flight Dynamics Automation	G	G	G		0.7		0.3	Flight Dynamics Database Specification delivered on 6/2/04. Release 1 of database access and manipulation software delivered 7/14/04.
MADECC			G		0.1		0.1	Task started in early July, with goal of integrating MADECC into FFTB.
Middleware	G	G	G		0.1		0.3	Compiled and graphed results for GMSEC middleware on top of TIBCO Rendezvous for comparison with similar results using standard point-to-point communications.
Technology								
AMPS	G	G	G		0.3		2.5	Continued development of GMSEC interface between AMPS and ASIST for ST-5.
Adaptive Sensor Fleet	G	G	G	7/04	1.5	+ 0.8		ASF team travelled to WFF to meet with John Moisan and his team to work out interface issues between OASIS and ASF. Continued subsystem development.
URDU	G	G	G		0.7			Updated URDU database following analysis versus actual SDO ACS FSW requirements document. Completed performance analysis to improve execution speed.

Personnel Transitions

Person	From		To		FTE
	Project	**Business Type**	**Project**	**Business Type**	
Tom Sardella	**McMurdo GS Upgrade**	**ISE – Primary, Specialized**	**ASF**	**AISE - Technology**	**0.8**
Allison Greene	**Co-op Conversion**		**GMAT**	**AISE - Unique**	**1.0**

Business Type Distribution
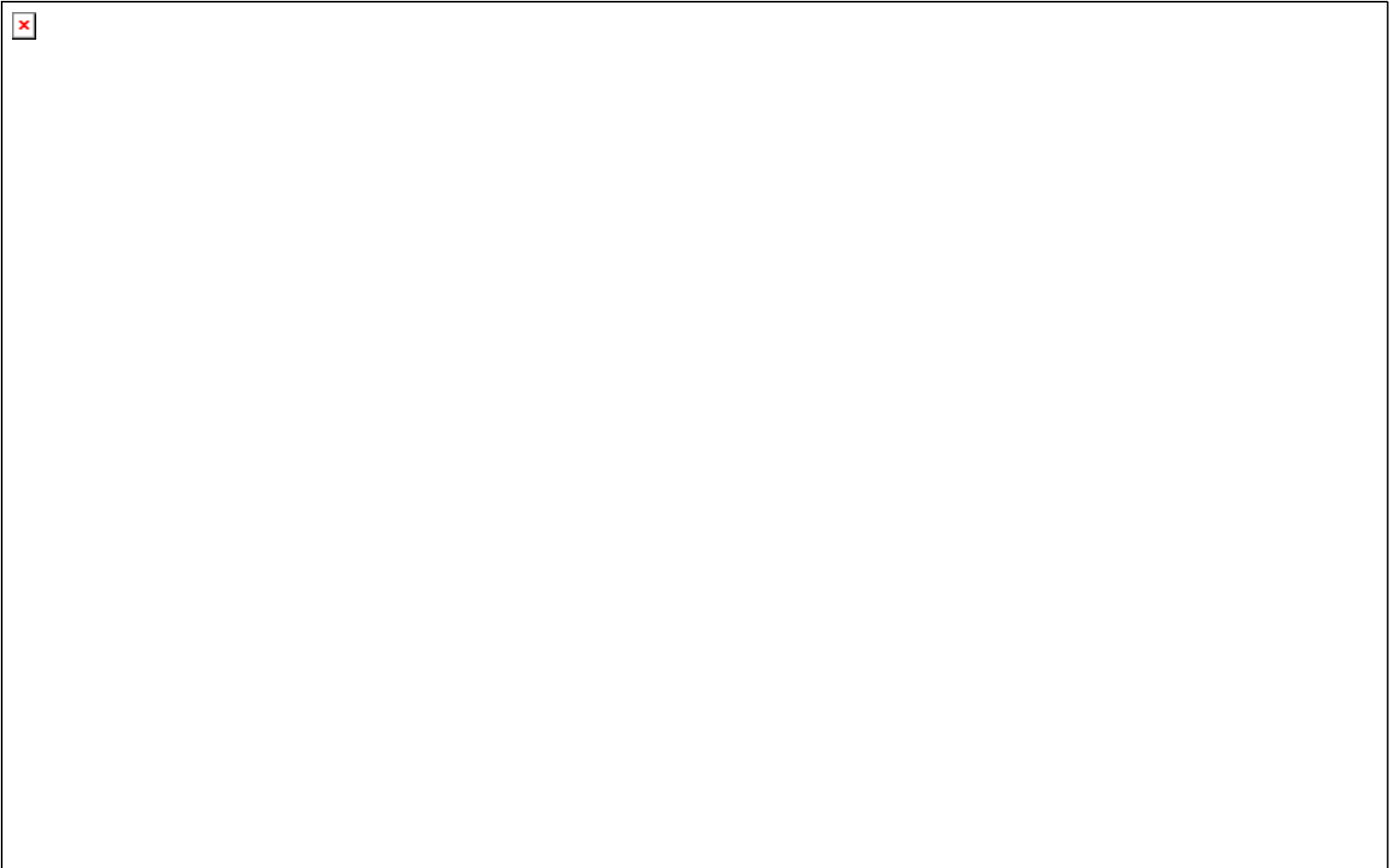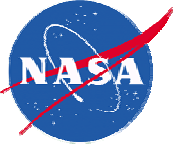
Acronyms

AAS	American Astronomical Society		LEP	Laboratory for Extraterrestrial Physics (696)
AMPS	Automated Mission Planning System		MADECC	Multiple Autonomous Discrete Event Controllers for Constellations
ANSR	Alert Notification System Router		MMS	Mission Management System
ASSET	Advanced SSR Scheduling Tool		MOMS	Mission Operations and Mission Services
BAT	Burst Alert Telescope		NICMOS	Near Infrared Camera and Multi-Object Spectrometer
CAN	Cooperative Agreement Notice			
CMMI	Capability Maturity Model - Integrated		NPR	NASA Procedural Requirement
DR	discrepancy report		PFFIAT	Precision Formation Flying Integrated Analysis Tool
EMOS	EOS Mission Operations System			
EPG	Engineering Process Group		P&S	planning and scheduling
EOC	EOS Operations Center		SAC	sensor analysis calibration
ESMF	Earth System Modeling Framework (931)		SCAMPI	Standard CMMI Appraisal Method for Process Improvement
ESMO	Earth Science Mission Operations			
FDAB	Flight Dynamics Analysis Branch (595)		SCAT	Software Configuration Automation Tool
FDS	Flight Dynamics System		SDP	science data processing
FFTB	Formation Flying Testbed		SPDF	Space Physics Data Facility (632)
FOR	Flight Operations Review		SIMSS	Scalable Integrated Multi-Mission Simulation Suite
FOT	Flight Operations Team			
FSW	flight software		SSC	Satellite Situation Center
GMAT	Goddard Mission Analysis Tool		SSC	Swift Science Center
GMSEC	GSFC Mission Services Evolution Center		STIS	space telescope Imaging Spectrograph
GS	ground system		STScI	Space Telescope Science Institute
GTDS	Goddard Trajectory Determination System		SWG	Software Working Group
HST	Hubble Space Telescope		SWSI	Space Network Web Services Interface
ICD	Interface Control Document		UI	user interface
ITPS	Integrated Trending and Plotting System		URDU	User-Interactive Requirements Development Utility
I&T	integration and test			